

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in this Application. It is noted that this listing of claims is in a proper format for a reissue application, according to 37 CFR 1.173. Per the Examiner's requirement, the listing of claims has been amended to reference the claims as originally filed in the present continuation application.

Listing of Claims:

1-3 (Cancelled)

4. (Currently Amended) [The method of claim 3,] A method of surgery comprising:
forming concave surfaces in endplates of confronting vertebral bodies;
inserting between the formed concave surfaces an intervertebral disc
endoprosthesis wherein the intervertebral disc endoprosthesis comprises: L-shaped
supports wherein each of the L-shaped support comprises an exterior convex surface
adapted to mate with one of the formed concave surfaces; and a resilient body interposed
between the L-shaped supports; and
implanting at least one anchor in at least one of the confronting vertebral bodies,
wherein the implanting is located in an anterior surface of the at least one of the confronting vertebral bodies.

5-8 (Cancelled).

9. (Currently amended) [The method of claim 7, further comprising] A method of surgery comprising:

implanting at least one anchor in an anterior surface of at least one of confronting vertebral bodies;
removing damaged disc material;
forming concave surfaces in the endplates of the confronting vertebral bodies; and
inserting between the formed concave surfaces an intervertebral disc endoprosthesis comprising: confronting supports, each support having an exterior convex surface adapted to mate with one of the formed concave surfaces; and a resilient body interposed between the supports.

10-20 (Cancelled)

21. (New) A method of surgery comprising:
forming partially hemispherical surfaces in endplates of confronting vertebral bodies; and
inserting between the formed partially hemispherical surfaces an intervertebral disc prosthesis comprising confronting supports, each support having a partially hemispherical exterior surface adapted to mate with one of the formed partially hemispherical surfaces, wherein the supports are capable of movement relative to each other after the prosthesis has been inserted between the formed partially hemispherical surfaces.

22. (New) The method of surgery according to claim 21, wherein the partially hemispherical surfaces are formed using a milling jig.

23. (New) The method of surgery according to claim 21, further comprising:
prior to forming the partially hemispherical surfaces in the vertebral body endplates, implanting at least one anchor into a hole having a predetermined position in an anterior surface of at least one of the confronting vertebral bodies; and

affixing a bone surface milling mechanism to the at least one anchor.

24. (New) A method for inserting an intervertebral disc prosthesis having a first and second surface, the method comprising:

forming a first indentation in a first endplate of a first vertebral body, the first indentation having a middle portion and a circumferential rim such that the middle portion is deeper into the first vertebral body than any part of the circumferential rim;

fixedly mating the first surface to the first indentation of the first endplate of the first vertebral body, the first surface having a shape that conforms to the first indentation;
and

fixedly mating the second surface to a second vertebral body.

25. (New) The method of claim 24 wherein the first indentation is formed by attaching a milling jig to either the first or second vertebral body and milling the first indentation.

26. (New) The method of claim 24 wherein the first indentation is concave about multiple planes and the first surface of the intervertebral disc prosthesis has a convex shape.

27. (New) The method of claim 24 wherein the first and second surface are capable of relative movement after being mated to the first and second vertebral bodies, respectively.

28. (New) The method of claim 24 further comprising:
forming a second indentation in a second endplate of the second vertebral body, the
second indentation having a middle portion and a circumferential rim such that the middle
portion is deeper into the second vertebral body than any part of the circumferential rim.

29. (New) A method of surgery comprising:
forming a first surface in an endplate of a first vertebral body, the first surface
being arcuate in multiple planes;
inserting a motion-preserving disc prosthesis into an intervertebral space adjacent
to the formed first arcuate surface; and
positioning a first portion of the inserted prosthesis against the formed first
surface of the first vertebral body, wherein the first portion has an exterior configuration
adapted to mate with the formed first surface.

30. (New) The method of surgery of claim 29 further comprising:
forming a second arcuate surface in an endplate of a second vertebral body
opposing the first vertebral body; and
positioning a second portion of the inserted prosthesis against the formed second
arcuate surface of the second vertebral body, wherein the second portion has an exterior
configuration adapted to mate with the formed second arcuate surface.

31. (New) The method of surgery of claim 30 further comprising:
attaching a milling jig to at least one of the first and second vertebral bodies for
milling the arcuate surfaces in the endplates of the first and second vertebral bodies.

32. (New) A method of surgery comprising:
attaching a milling jig to a vertebral body;

milling an endplate of the vertebral body to a relatively shallow thickness as compared to an overall thickness of the vertebral body; and
positioning a motion-preserving implant into a disc space adjacent the milled endplate, the implant have a surface that conforms to the milled endplate.

33. (New) The method of claim 32, wherein the endplate is milled to form a shape having a depth less than its width.

34. (New) The method of claim 33 wherein the shape is convex about multiple planes.

35. (New) A method of surgery comprising:
(a) forming concave surfaces in the endplates of confronting vertebral bodies, and
(b) inserting between the formed concave surfaces an intervertebral disc endoprosthesis, comprising:

- (1) confronting concaval-convex supports, each support having an exterior convex surface adapted to mate with one of the formed concave surfaces, and
- (2) a resilient body element interposed between the concaval-convex supports.

36. (New) A method of endoprosthetic discectomy surgery comprising:
receiving information about the size, shape and nature of a patient's involved natural spinal vertebral bodies and natural spinal vertebral discs from [known] imaging devices,
removing at least the involved, damaged natural spinal disc material from the patient's spine,

forming concave surfaces in adjacent spinal vertebral bodies, the concave surfaces being concave about multiple planes, and
implanting an intervertebral disc endoprosthesis comprising a resilient disc body and concave-convex elements at least partly surrounding the resilient disc body in the patient's spine.